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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/454,941	12/02/1999	DAVID B. KIRK	1391P	4446

7590 02/21/2007

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EXAMINER	
KIM, HAROLD J	
ART UNIT	PAPER NUMBER
2181	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/454,941	KIRK, DAVID B.	
	Examiner	Art Unit	
	Harold Kim	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11,13-20 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11,13-20 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/29/2007 has been entered

2. This Office Action is in response to the filing of the RCE, the argument has been considered but they are not persuasive.

3. Claims 1, 3-11, 13-20, and 22-28 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. **Claims 1, 9-11, 16, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Dye, US Patent no. 6,173,381.**

4. In re claim 1, Dye shows a controller chip [fig 5] comprising:

a graphics engine [graphic engine, 202, 204, 206, 210, 212, fig 5] operative to manage a memory [110, fig 2], the graphic engine comprising an integral interface [202,

fig 5; comprises a single chip, col 9, line 31]; and

a first in first out (FIFO) buffer [214, fig 5; FIFO] coupled to the graphic engine, the FIFO buffer being accessible by a central processing unit (CPU) [120 in fig 2; HOST in fig 2] through the graphic engine, wherein the graphic engine receives commands from the CPU via the integral interface, and manages the FIFO buffer via the integral interface [col 12, lines 4-27; figs 2 and 5] and wherein data transmittable to the FIFO buffer [some data is transmittable to 214 and 216 in fig 5] is transmitted via the integral interface [202, fig 5].

5. In re claims 9, and 16, Dye shows a graphics controllers chip [212, fig 5].

6. In re claim 10, Dye shows a graphics engine [212, fig 5].

7. In re claim 11, Dye shows a system for providing a command stream in a computer system [fig 5] comprising:

a central processing unit (CPU) [102, fig 2];

a controller [140, fig 2] coupled to the CPU and including a graphics engine [graphic engine, 202, 204, 206, 210, 212, fig 5] comprising an integral interface [202, fig 5; comprises a single chip, col 9, line 31];

a memory [110, fig 2] coupled to the controller, the memory being managed by the controller; and

a first in first out (FIFO) buffer [214, fig 5] coupled to the controller, the storage element being accessible by the CPU through the controller, wherein the controller receives commands from the CPU via the integral interface manages the first in first out

(FIFO) buffer via the integral interface and writes the commands into the memory [col 12, lines 4-27; figs 2 and 5] and wherein data transmittable to the FIFO buffer is transmitted via the integral interface [some data is transmittable to 214 and 216 in fig 5].

8. In re claim 20, Dye shows a method for providing a command stream in a computer system [fig 5], the computer system including a central processing unit (CPU) [102, fig 2], a controller [140, fig 2] coupled to the CPU, a memory [110, fig 2] coupled to the controller, the memory being managed by the controller, the method comprising the steps of:

(a) providing first in first out (FIFO) buffer [214, fig 5] within the controller ; and

(b) allowing the FIFO buffer to be accessible by the CPU via an integral interface [202, fig 5; comprises a single chip, col 9, line 31] of a graphic engine [graphic engine, 202, 204, 206, 210, 212, fig 5] of the graphics controller wherein data transmittable to the FIFO buffer is transmitted via the integral interface [some data is transmittable to 214 and 216 in fig 5].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 3-8, 13-15, 17-19 and 22-28 are rejected under 35 U.S.C. 103 (a) as**

being unpatentable over Dye, US Patent no. 6,173,381, in view of Davis et al., US Patent no. 4,991,169.

11. In re claims 3 and 6, Dye does not show circular buffer and the effective size of the FIFO buffer as view by the CPU can be as large as the memory. Davis et al show the circular buffer [col 4, lines 4] and the effective size of the FIFO buffer as view by the CPU can be as large as the memory [col 4, lines 1, "shared memory"]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the circular buffer and the effective size of the FIFO buffer as view by the CPU can be as large as the memory as shown in Davis et al. for saving the cost of memory.

12. Claims 13, 17, and 25-26 are rejected under the same rationale as discussed above in claims 3, and 6.

13. In re claims 4, 5, 7 and 8, Dye does not explicitly show a circular FIFO buffer, a double buffer, a triple buffer, a checking mechanism. Official Notice is taken that both the concept and the advantages of providing for a circular FIFO buffer, a double buffer, a triple buffer, a checking mechanism are old and well known in the art. Therefore, it would have been obvious to the ordinary skilled person in the art at the time the invention was made to include the FIFO, circular FIFO buffer, double buffer, triple buffer, checking mechanism in Dye for more flexible device by allowing it to operate in multiple configurations and more reliable system by controlling and predicting data flow.

14. Claims 14-15, 18-19, 22-24, 27, and 28 are rejected under the same rationale as discussed above in claims 4, 5, 7 and 8.

Response to Arguments

Applicant's amendment with arguments has been fully considered but they are not persuasive.

In the remarks, applicants argued in substance that the claimed invention does not show a controller chip that includes a graphics engine (that comprises an integral interface) and a FIFO buffer where data transmittable to the FIFO buffer is transmitted via the integral interface as claimed in claim 1.

The rejection states as above that Dye shows a controller chip [140, fig 5] that includes a graphics engine [graphics engine, 202, 204, 206, 210, 212 in fig 5] that comprises an integral interface [202, fig 5] and data transmittable to a FIFO buffer [some data is transmittable to 214 and 216 in fig 5] that is transmitted via the integral interface [202, fig 5].

Dye also shows the graphics engine receiving commands from the CPU [120 in fig 2; HOST in fig 5] via the integral interface [202 in fig 5] that is a part of the graphics engine.

Dye also shows the graphics engine managing the FIFO buffer [214, FIFO, fig 5] via the same integral interface [202 in fig 5; comprises a single chip, col 9, line 31].

As stated above, the graphics engine is comprising an integral interface [202; comprises a single chip, col 9, line 31], FIFO [214], execution engine [210], graphics engine [212], and memory controllers [221, 222]. Since the IMC 140 in fig 5 comprises a single chip, Dye clearly shows the interface 202 is an integral interface.

Conclusion

Applicant's amendment is not persuasive. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this action should be mailed to:

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P.O. Box 1450
Alexandria, VA 22313-1450

The centralized fax number is 571-273-8300.

The centralized hand carry paper drop off location is:

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Randolph Building

401 Dulany Street

Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application should

be directed to the central telephone number (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold Kim whose telephone number is 571-272-4148. The examiner can normally be reached on Monday-Friday 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 or call 571-272-1000.

Harold J. Kim
Patent Examiner
February 20, 2007/HK

DONALD SPARKS
SUPERVISORY PATENT EXAMINER